STANDARD FORMAT
AND CONTENT FOR THE
SYSTEM* DESCRIPTION DOCUMENT

1. Scope

2. Applicable Documents

3. Engineering Description & Requirements For The System

3.1 Technical Description & Requirements For The System

Provide an engineering description of the system(s) to be created, acquired modified, used, operated, or disposed of by this project and define the requirements for the system(s) or provide reference to the existing engineering description of the system(s) affected by the work activities of this project.

This description shall include material flow, data flow, information and energy flow requirements.

At a minimum, the engineering description shall include the following:

3.1.1 System Level Requirements.

System Identification—For existing system(s), identify by name the system(s) affected by the work activities of this project. For new system(s), provide a name for the system(s) affected by the work activities of this project

System Boundary—Identify the boundary of the system(s)

System-level Function(s)—Identify the functions required for the system(s).

System-level Input(s)—Identify the inputs required for the system(s).

System-level Output(s)—Identify the outputs required for the system(s).

System-level Performance—Identify the performance required for the system(s).

System Life-cycle Requirements—Define the life-cycle requirements for the system(s).

- *Cost/time to create, acquire, or modify the system.* Define how long it is to take and how much it should cost to create, acquire, or modify the system(s)

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* The title of the "System Description Document" shall reflect the level of system definition the project work activities affects. If the project affects only the definition of the system at the assembly level (see the hierarchy terminology definitions of Section 3.2 of this appendix) the title of the appropriate appendix F-2 document should read "ASSEMBLY DESCRIPTION DOCUMENT." Section 3.1 should be modified to read "TECHNICAL DESCRIPTION & REQUIREMENTS FOR THE XXX ASSEMBLY"; Section 3.1.1 of the document should read "XXX ASSEMBLY LEVEL REQUIREMENTS"; Section 3.2 should be modified to read "INTERNAL XXX ASSEMBLY FUNCTIONS, INPUTS, OUTPUTS AND PERFORMANCE"; etc..

- *Cost/time to use or operate the system.* Define how long this system is to be used or operated and define what the cost should be to use or operate the system(s)

- *Cost/time to dispose of the system.* Define how long it should take and how much it should cost to dispose of the system(s)

3.1.2 Technical Interface Description & Requirements For The System To External Systems.

Provide an engineering description of the external system(s) this system(s) interfaces to. Define the interface requirements between this system(s) and the external system(s). This description shall include inputs, outputs of this system(s) to the external system(s). This description shall include material flow, data flow, information, energy flow and physical requirements for the interface.

3.2 internal system functions, inputs , outputs and performance

Identify the internal system function(s), inputs and outputs needed to satisfy the system level functions, inputs and outputs and performance of 3.1.1.

For new systems, the engineering description of the system and the requirements for the system(s) shall use the following hierarchy terminology:

- system
  - segment
    - element
      - subsystem
        - assembly
          - subassembly
            - part

Existing systems shall use the existing hierarchy terminology used to define the existing system(s).

4. Technical Requirements Verification Strategy

Define how this project will ensure that the technical requirements defined in sections 3.1 and 3.2 will be satisfied.

Develop a requirements verification methodology matrix defining the method to be used to verify compliance with the requirements listed in 3.1 and 3.2 are satisfied. Acceptable verification methods include:

- *Review[‡].* Used in the context of a technical design review, a group of technically compotent individuals examines system designs critically to verify that all activities correspond to project requirements at the appropriate stage of the system life cycle.

- *Test[‡].* A test article is subjected to a controlled series of stimuli and the article response is monitored and compared with a standard.

- *Analysis[‡].* A human (mentally or possibly augmented by a computer model or simulation) examines a design concept for compliance with requirements by understanding its elements and relations.

[†] Derived from The American Heritage Dictionary, Third Edition.

[‡] From Grady, Jeffrey O., (1993), System Requirements Analysis, New York: McGraw-Hill, Inc.

- _Demonstration[‡]._ An article is manipulated in accordance with instructions and the outcome is compared with planned results.

- _Inspection[‡]._ A human (aided by tools), machine, or special sensors compares the measrued or observed characteristics of an object with a standard.

- _Examination[†]._ A human observes an article carefully or critically, records the observations, and compares them to a standard.